

REMARKS

Claims 1-42 are pending in the application. Claims 1-13, 15, and 18-42 have been rejected. The rejections are respectfully traversed and reconsideration is requested.

Claims 14 and 16, and 17 have been objected to as being dependent upon a rejected base claim. Claims 14 and 16 have been rewritten in the independent form, so that Claims 14, 16 and 17 are not dependent on the rejected base claim. All claims are now believed to be in condition for allowance.

Claim Rejections Under 35 U.S.C. 103

Claims 1-7, 12, 13, 15, 19-23 and 29-33 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,337,068 to Stewart et al. in view of U.S. Patent No. 5,300,976 to Lim et al. Although U.S. Patent No. 5,300,976 is to Lim et al., the Office Action refers to Kim, which we believe to be in error. These rejections are respectfully traversed and reconsideration is requested.

Stewart discloses a field sequential display system utilizing a backlight LCD pixel array and a method for forming an image on it. The backlighted color LCD display in Stewart is formed by placing a single matrix of liquid crystal devices over a bank of red, green and blue fluorescent lamps. These lamps are large and, consequently, the LCD display of Stewart is large.

Lim discloses an electronic movie camera system having an LCD panel – a viewfinder – disposed within the housing to display an image. The LCD panel of Lim has a first polarizing plate at the front of the LCD panel, a second polarizing plate at the rear, a light source disposed adjacent to the rear of the second polarizing plate, and an eye lens positioned at the front of the first polarizing plate (Col.1, ll. 42-51). Nothing further is disclosed with respect to displaying the image on the LCD panel, including whether the light source is a color light source.

There is no motivation to combine the teachings of Stewart and Lim because Lim merely mentions the existing LCD technology and does not supplement Stewart in any way with respect to displaying an image on the LCD display. Furthermore, the LCD displays of Stewart and Lim are very disparate in size and no suggestion is made as to how an LCD of Stewart can be reduced to the size needed in Lim.

Even if Stewart and Lim were to be combined, *arguendo*, the combination would not be enabling and would not render the presented claims as obvious. In discussing Lim, the Examiner states that:

“Lim discloses a LCD display device 5a in combination with a light source 5e used in a view finder similar to applicant [sic] invention. Therefore, it would have been obvious to one of ordinary skill in the art to have modified Stewart’s LCD into a very small display (e.g. view finder) as taught by Lim because the active matrix LCD is controlled by a TFT switch which is build [sic] on a substrate and the pixel can be made in a very small size.”

The Applicants respectfully disagree. Although the use of TFT switches does allow the pixels to be made in a small size (as in Lim), it is not obvious how to specifically make a matrix liquid crystal display having an array of at least 75,000 pixel electrodes and an active area of less than 20 mm², as recited in independent claims 1, 10, 12, 34, and 35. As the pixel size gets smaller, the circuits and pathways need to be modified. For example, as the pixel size gets smaller and the pixel density increases, interferences among the pixel signals increase. In addition, it is more difficult to manufacture displays having a small pixel size and high pixel density, as claimed in the present application.

As explained in the entered Amendment After Final of January 8, 2002, Stewart is merely concerned with forming a color LCD display by placing a single matrix of LCD devices over a bank of red, green, and blue fluorescent lamps. Stewart’s description of the device and the operation of the device says nothing about the number of pixel electrodes in the display. Nor does Stewart discuss small active area displays. Instead, Stewart describes an 8-by-11-inch display.

Furthermore, the Examiner states that the LCD display can be made very small in size. However, the Examiner fails to explain how the pixels can be made in a very small size and to state the sources on which the Examiner is relying. As explained in the MPEP, “when a rejection is based on facts within the personal knowledge of the examiner, the data should be stated as specifically as possible, and the facts must be supported.”¹ The Examiner has not cited any data

¹MPEP 2144.03

or references discussing how pixels can be made in a very small size such that an array of at least 75,000 pixel electrodes are placed in an active area of less than 20 mm².

Lim does not discuss the number of pixel electrodes in the viewfinder illustrated in Figs. 2a and 2b to which the Examiner refers. Furthermore, nowhere does Lim discuss the size of the LCD panel in the viewfinder and there is no indication that it is near 20 mm².

Thus, the display having a matrix liquid crystal display having an array of at least 75,000 pixel electrodes and an active area of less than 20 mm², as recited in independent claims 1, 10, 12, 34 and 35, is not made obvious by Stewart in combination with Lim. Claims 2-11, 13, 15, 18-33, and 36-42 depend on independent Claims, 1, 10, 12, and 35, respectively, and, therefore, are not obvious in view of the combination of Stewart and Lim for at least the same reasons as discussed above.

Claims 8-11, 18, 24-28, and 34-42 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Stewart in view of Lim and further in view of U.S. Patent 5,627,560 to Verhulst. These rejections are respectfully traversed and reconsideration is requested.

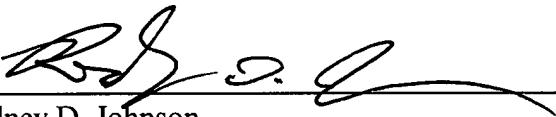
As discussed above, neither Stewart nor Lim, nor the combination of the two, render the independent base claims obvious. The addition of Verhulst does not overcome the limitations in those references. Verhulst teaches a display control circuit for switching an applied voltage to the counter electrode panel to erase an image presented on the display. Nowhere does Verhulst teach, or even mention, writing the image to a matrix liquid crystal display having an array of at least 75,000 pixel electrodes and an active area of less than 20 mm². Therefore, the rejection of Claims 8-11, 18, 24-28 and 34-42 should be withdrawn.

CONCLUSION

In view of the above amendments and remarks, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,

HAMILTON, BROOK, SMITH & REYNOLDS, P.C.

By 
Rodney D. Johnson
Registration No. 36,558
Telephone: (978) 341-0036
Facsimile: (978) 341-0136

Concord, MA 01742-9133

Dated:

April 21, 2007